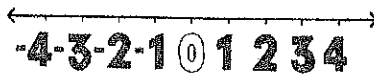


EXPLORING MATH



1. number line



9. multiply

0 1 2 3 4 5 6 7 8 9 2. digits

$$4 \times 3 = 12$$

10. product



3. even numbers



11. divide



4. odd numbers

$$6 \div 3 = 2$$

12. quotient



5. add



13. comparisons

$$4 + 1 = 5$$

6. sum



14. whole number



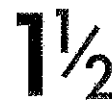
7. subtract



15. fraction

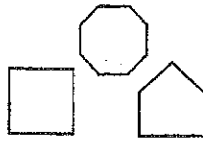
$$7 - 3 = 4$$

8. difference



16. mixed number

GEOMETRY I



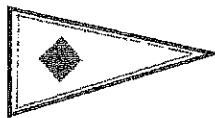
1. plane figures



2. square



3. rectangle



4. triangle



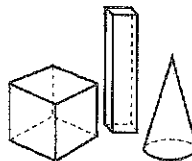
5. circle



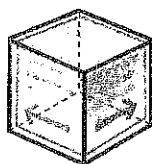
6. pentagon



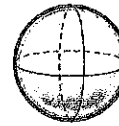
7. octagon



8. solid figures



9. cube



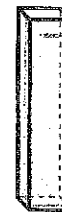
10. sphere



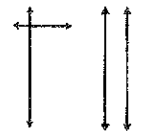
11. cylinder



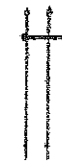
12. cone



13. rectangular prism



14. lines



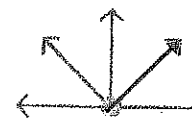
15. line segment



16. parallel

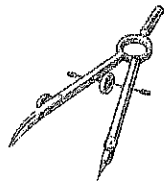


17. perpendicular

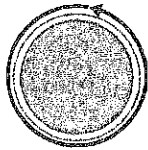


18. ray

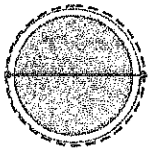
GEOMETRY II



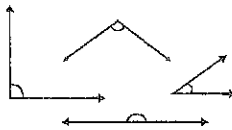
1. compass



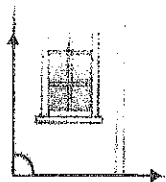
2. circumference



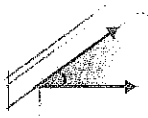
3. diameter



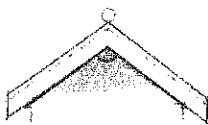
4. angles



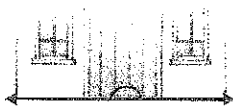
5. right angle



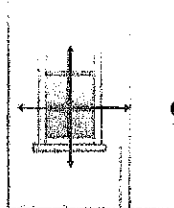
6. acute angle



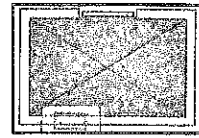
7. obtuse angle



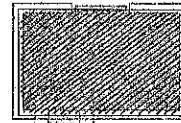
8. straight angle



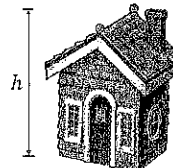
9. intersecting lines



10. perimeter



11. area



12. height



13. length



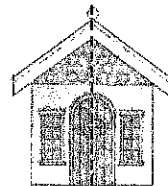
14. width



15. base



16. edge

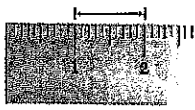


17. symmetrical

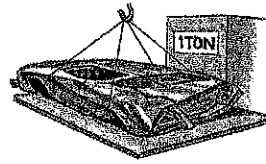


18. congruent figures

MEASUREMENT



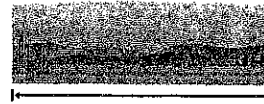
1. centimeter



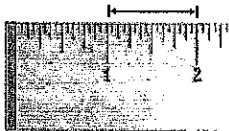
10. ton



2. meter



11. mile



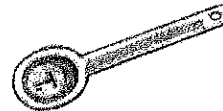
3. inch



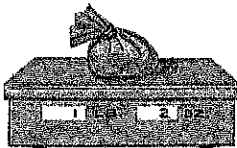
12. teaspoon



4. foot



13. tablespoon



5. weight



14. cup



6. gram



15. liter



7. kilogram



16. pint



8. ounce



17. quart

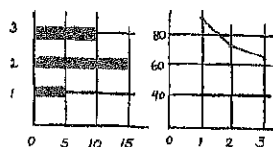


9. pound



18. gallon

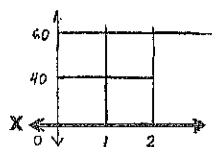
NUMBER PATTERNS, FUNCTIONS, AND RELATIONS



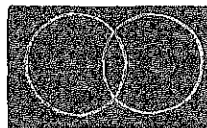
1. graphs

Ken	48"
Anna	56"
Louis	70"
Zennie	59"

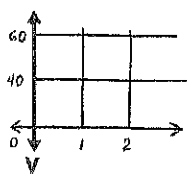
8. random order



2. x-axis



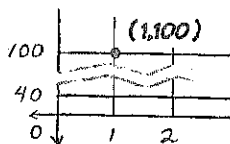
9. Venn diagram



3. y-axis

Student	Height	Weight
Ken	48"	71 lbs
Anna	56"	65 lbs
Louis	70"	100 lbs
Zennie	59"	89 lbs

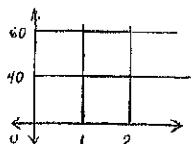
10. table



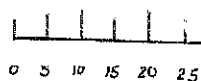
4. coordinates

Ken	48"	71 lbs
Anna	56"	

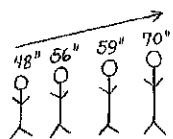
11. chart



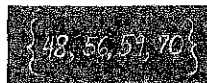
5. coordinate plane



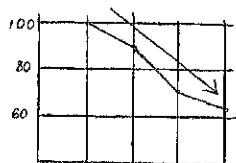
12. sequence



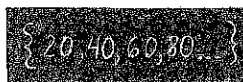
6. ascending order



13. finite set



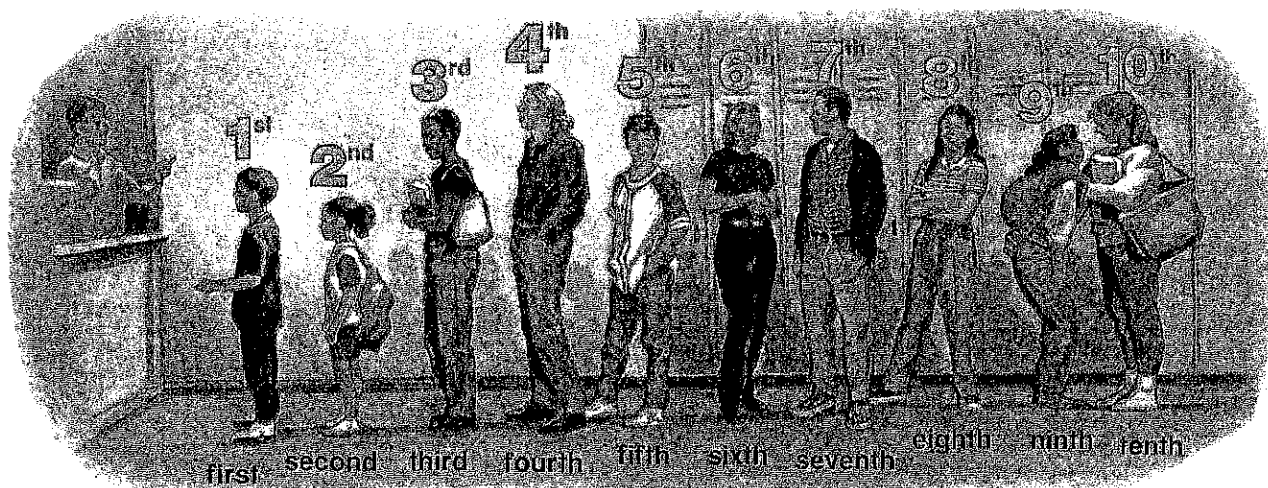
7. descending order



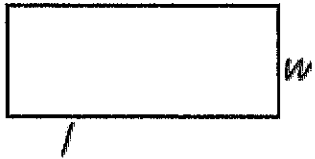
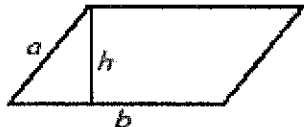
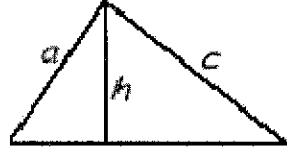
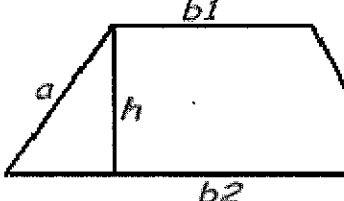
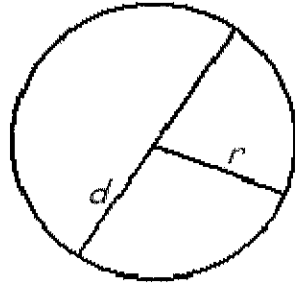
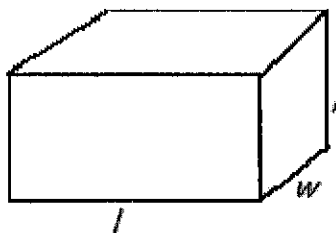
14. infinite set

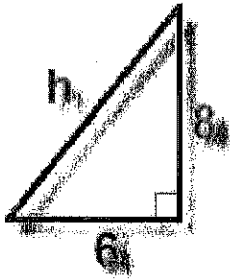
NUMBERS

0 zero	13 thirteen	30 thirty
1 one	14 fourteen	40 forty
2 two	15 fifteen	50 fifty
3 three	16 sixteen	60 sixty
4 four	17 seventeen	70 seventy
5 five	18 eighteen	80 eighty
6 six	19 nineteen	90 ninety
7 seven	20 twenty	100 one hundred
8 eight	21 twenty-one	500 five hundred
9 nine	22 twenty-two	1,000 one thousand
10 ten	23 twenty-three	1,000,000 one million
11 eleven	24 twenty-four	
12 twelve	25 twenty-five	



S H A P E S

	<p>Rectangle: (4 right angles, opposite sides are parallel and equal) Area = length * width $A = l * w$</p> <p>Perimeter = 2 * Lengths + 2 * Widths $P = 2l + 2w$</p>
	<p>Parallelogram (opposite sides are parallel and equal) Area = base * height $A = b * h$</p>
	<p>Triangle Area = 1/2 of the base * the height $A = \frac{1}{2}(b * h)$</p> <p>Perimeter = a + b + c (add the lengths of all 3 sides)</p>
	<p>Trapezoid (one pair of opposite sides are parallel) $A = \left(\frac{b1 + b2}{2}\right)h$</p> <p>Perimeter = the distance around all the sides $P = a + b1 + b2 + c$</p>
	<p>Circle</p> <ul style="list-style-type: none"> ○ Circumference (c) is the distance around the circle ○ Diameter (d) is the distance across the circle ○ Radius (r) is the distance from the center to a point on the circle <p>$\pi = 3.14$ $d = 2 * r$ $c = \pi d$ which means "pi times the diameter". This is the same as "pi * 2 * radius" because if you double the radius you get the diameter Area = $2 \pi r$ which means 2 * pi * radius</p>
	<p>Rectangular Solid Volume = length * width * height $V = l * w * h$ Surface Area = 2lw + 2lh + 2wh</p>



The Pythagorean Theorem works in any 90 degree triangle. This means that if you know two of the sides, you can always find the third one

$$a^2 + b^2 = c^2$$

The sum of the squares of the two shorter sides equals the square of the hypotenuse.

The longest side of a right triangle is always the hypotenuse represented by "h" in this triangle: $6^2 + 8^2 = h^2$

Mean

The mean is the same as the average. Add up the series of numbers and divide the sum by the number of values.

Median

The Median is the 'middle value' in a list or series of numbers.

You must first sort the numbers from smallest to largest. If the count is odd, the median is the middle entry in the list. When the totals of the list are even, the median is equal to the sum of the two middle numbers divided by two.

The above is true **IF** the list IS SORTED from smallest to largest.

Mode

The number that occurs most often in a sequence of numbers. A trick to remember this is that mode starts with the same first two letters that most does. Most frequently - Mode.

Rounding

The process of replacing a number by another number of approximately the same value but having fewer digits:
To the nearest dollar, the rounding of \$47.83 would make it \$48

The rounding digit is the second number to the left (ten's place) when working with whole numbers. When asked to round to the nearest hundred, the third place from the left is the rounding digit (hundreds place).

	<p>If the number to round is 5 or above, give it a shove up.</p> <p>If the number to round is 4 or below, let it go and you don't round up.</p>
Fraction Rules	<p>ADD: The denominator must be the same:</p> $\frac{1}{4} + \frac{3}{4} = \frac{1+3}{4}$ <p>SUBTRACT: To subtract fractions, the denominator must be the same:</p> $\frac{6}{8} - \frac{5}{8} = \frac{6-5}{8} = \frac{1}{8}$ <p>MULTIPLY: To multiply fractions, you multiply the tops across and then the bottoms across: $\frac{\text{top} * \text{top}}{\text{Bottom} * \text{Bottom}}$</p> $\frac{3}{4} * \frac{5}{7} = \frac{15}{28}$ <p>DIVIDE: To divide fractions, you keep the first fraction as it is, change the sign from division to multiplication, and turn the 2nd fraction upside down. We say: Keep it Change it Flip it or K C F</p> $\frac{1}{6} \div \frac{1}{3} = \frac{1}{6} \times \frac{3}{1} = \frac{3}{6}$
Decimals	<p>Adding or Subtracting Decimals: The decimals must line up:</p> $\begin{array}{r} 25.73 \\ + 2.463 \\ \hline 28.193 \end{array} \qquad \begin{array}{r} 25.73 \\ - 2.41 \\ \hline 23.32 \end{array}$ <p>Multiplying Decimals: Proceed as if multiplying whole numbers. Once you find the result, count the total number of decimal places in the problem.</p> <p>Multiplying decimals should proceed as if multiplying whole numbers. You do not, however, need to add any zeroes in this instance.</p> <p>Once you find your result, you need to count the total number of decimal places in the problem. So, if you have 3.62 x 1.75, the total is four -- two from the 1.75 and two from the 3.62 362 x 175 is 63350, but since you have four decimal places the actual answer is 6.3350</p> $\begin{array}{r} 3.62 \\ \times 1.75 \\ \hline 6.3350 \end{array}$ <p>Dividing Decimals: To divide decimals you need to change the dividend in your problem into whole numbers first. So, if you are dividing 0.72 into</p>

**Decimals
(continued)**

10.493, then you need to change 0.72 into 72. To do this, you multiply it by 100. However, you need to perform the same operation on the other side of the equation in order to keep it balanced, so 10.493 becomes 1,049.3. Once you've done this, you can carry on as if it were a whole number problem -- just make sure you put the decimal point in the same spot once you find your answer.

$$10.493 \div 0.72$$